Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Multipartite wavefunctions for the second Landau level FQHE SREEJITH GANESH JAYA, The Pennsylvania State University, ARKADIUSZ WÓJS, Wrocław University of Technology, CSABA TOKE, Institute of Physics, University of Pecs, Hungary, JAINENDRA JAIN, The Pennsylvania State University — We study the multipartite wave functions of composite fermions, in which the composite fermions within each partition are correlated differently than those across partitions. These include the Pfaffian wave function at 5/2 and the Rezayi-Read wave function at 13/5. Neutral and charged excitations of this state are modeled as neutral and charged excitations created in the individual partitions. We investigate how accurate these wave functions are for certain model three and four body interactions, and whether they are adiabatically connected to the Coulomb solutions. In particular, 5/2 state for an odd number of particles, which contains at least one unpaired composite fermion, will be considered. We also test how multiple degeneracy arises in this model for quasiparticles and quasiholes.

Sreejith Ganesh Jaya
The Pennsylvania State University

Date submitted: 08 Dec 2011 Electronic form version 1.4